

Elsberry Plant Materials Center
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Plants for Conservation

Spring 2012

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Elsberry PMC Plans Field Day

The USDA NRCS Elsberry Plant Materials Center (PMC) invites you to attend our **Field Day on Wednesday, June 20, 2012** from 10:00 a.m. to 2:30 p.m. The open house begins at 10:00 a.m. with a welcome and introduction to the Elsberry Center.

A wagon tour will provide an overview of the facilities and specialized equipment for foundation seed processing, harvesting, cleaning, and the storage requirements for native seed. The tour will also view the Center's production fields.

The Center has 19 active studies that directly relate to finding plant solutions to help respond to our natural resources challenges in the three states of Iowa, Illinois and Missouri that the Center serves.

So schedule June 20, 2012 Tuesday to come and spend a beautiful summer day at the Elsberry Plant Materials Center. Bring your lunch, picnic tables and shaded trees provided! An agenda will be e-mail out to field offices a month before the field day.

Please Confirm Your Attendance by calling the center at 573-898-2012; or contact: ron.cordsiemon@mo.usda.gov PMC, Mgr, Or jerry.kaiser@mo.usda.gov , PM Specialist



Drawing prizes will be awarded to some lucky winners that attend the field day.

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Cover Crop Mixtures

Jerry Kaiser, Plant Materials Specialist

The most frequent questions I hear about cover crops what species work together? How and when should they be planted? How much will they grow and produce? When and how should the cover crop be terminated?

We are looking into these issues here at the PMC. Starting last fall with six different seeding mixtures, two different application methods aerial applied vs. drilling. This spring we are collecting data on the amount of dry matter produced and canopy cover from in March through April along with three terminations times to control the cover crop.



Cereal rye and Crimson clover in a seeding



Three different termination times and the amount of control on the cover crop mixtures are being evaluated this spring.

New NRCS and District Employee Training August 21-23 2012 at the PMC

The PMC and FTS staff will be conducting training for 24 participants in two days starting at 1:00PM Tuesday and finishing by noon on Thursday. The following topics include plant/tree identification; overview and field exercises on calibration of equipment sprayer, drills; residue and nutrient management; water quality and soil health exercise; biological control of invasive species; food and cover for wildlife habitat; and related plant material information with a tour of the facilities. Interested participants need to contact their supervisor and



provide the names of the employee to the Area Conservationist for approval by July 15th. Last year the 24 participants were from Missouri, but the training is open to all three states of Missouri, Iowa and Illinois if participants receive approval to attend.



Termination Timing of Selected Cover Crops Using a Roller Crimper

Ron Cordsiemon, PMC Manager

Producers are always looking for effective and lower cost options to produce their crops. Cover crops represent a cropping practice that has the potential to reduce herbicide reliance and minimize tillage while improving soil fertility, reducing soil erosion, sequestering soil carbon, increasing soil water infiltration and storage, and suppressing weeds. As cover crop use increases, their management becomes an important component of many farming systems. Timing and method of termination are the two most important factors of cover crop management. In the fall of 2011 cover crops of winter wheat, hairy vetch, and cereal rye were planted. Each of these crops are going to be terminated using a roller crimper at three different times; early, currently recommended, and late. The termination time will be based on the physiological growth stage of each species. Above ground biomass, cover crop and weed canopy cover, light interception, nitrate-nitrogen concentration, and soil moisture and temperature measurement will be taken prior to each termination date for each species. After termination with the roller crimper, the effectiveness of the kill will be estimated. The study is designed to validate the currently recommended termination times for the species and to collect information on soil moisture, nitrate-nitrogen, and light interception of each cover crop that may be useful for future recommendations on cover crop selection and expectations of cover crop performance.



Using Roller Crimper to terminate cereal rye.



Evaluation of effectiveness of the roller crimper termination.

Invasive species control using Small Ruminants ~Allen Casey, Soil Conservationist

In the spring of 2011, the PMC started a project to use small ruminant animals to control bush honeysuckle and common buckthorn, which are invasive woodland shrubs. In 2011, Katahdin hair sheep were used to browse these species. The sheep were able to graze the shrubs up to about 4.5 feet. Lincoln University monitored the health of the sheep throughout the season and the results are summarized in the tables 1 and 2.

The negative ADG and total gain of the ewes is not unexpected, due to the fact that they lambled, and most ewes lose some weight during that time. The body condition and FAMACHA scores suggest that the Katahdin breed were resilient to the stresses of this study. However, the amount of weight that was lost may be of concern. The lambs gained weight throughout the season which suggests that grazing AH and CB may negatively alter ewe performance but may not negatively impact lamb performance.

Table 1. Mean results of Katahdin ewes in the 2011 season.

	Total Gain (lbs)	Average Daily Gain (ADG) (lbs)	Body Condition Score	FAMACHA Score	Coccidia spp. count (#/g)	Fecal Egg (eggs/g)
Mean	-12.5	-0.37	3	2	-647	485
Standard Error	1.99	0.07	0.12	0.16	877	198

Table 2. Mean results of Katahdin lambs for the 2011 season.

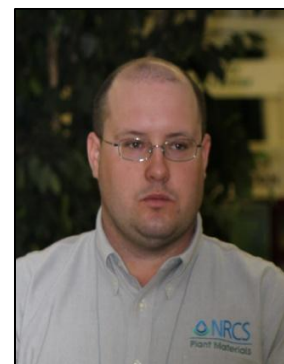
	Total Gain (lbs)	Average Daily Gain (ADG) (lbs)	Birth Weight (lbs)	End Weight (lbs)
Mean	16.8	0.4	13.4	30.3
Standard Error	0.93	0.01	0.37	0.92

Analysis of the vegetation monitoring points suggests that there was little, if any, change in the species composition after one year of browsing. It is expected that it will take at least 3 years of grazing to see a significant impact on the vegetation species composition.

On March 26, 2012 fifteen pregnant Spanish goats and a guard donkey were brought to the PMC, and were allowed to browse the paddocks. On May 3, 2012, 15 boar goats were added. Spanish and boar goats are touted as being more resistant to parasites and better able to control brush species than Katahdin sheep. Cross fences are being used within each paddock to better control the intensity of grazing on the target brush species.

Personnel Update

Allen Casey is the new soil conservationist at the PMC. He was a career intern at the Manhattan Kansas PMC for almost 2 years before joining us. Allen holds Master and Bachelor degrees in Biology with emphasis in Botany and Rangeland/Wetland Ecology, respectively, from Fort Hays State University (FHSU) in Kansas. He was a graduate teaching assistant where he taught biology, botany, and genetics labs for two years at FHSU. Before joining NRCS, Allen was contracted for the National Resources Inventory (NRI) rangeland field inventories and carbon credit verifications on privately owned range and pasture lands in Kansas, Colorado, Montana, Nebraska, Wyoming, North Dakota, and South Dakota. He has also conducted rare plant surveys for the U.S. Forest Service in South Dakota and Minnesota. His wife, Kayla, is a licensed CPA and staff accountant for Clayco, Inc. in St. Louis.



Website Reference Locations

Click on the following line web link to access Elsberry PMC Homepage

<http://plant-materials.nrcs.usda.gov/mopmc/>

Click on the following line for the 2012 Updated Growers List if you are looking for native grasses, legumes, forbs or woody plant materials. <http://www.plant-materials.nrcs.usda.gov/pubs/mopmsbr10817.pdf>

Click on the following line for the 2012 Updated Foundation Seed Prices.

2012 Foundation Seed Prices <http://www.plant-materials.nrcs.usda.gov/pubs/mopmsbr10816.pdf>

Click on the following line for the 2010 Annual Technical Report for current study updates from the Elsberry PMC*

<http://www.plant-materials.nrcs.usda.gov/pubs/mopmctr10596.pdf>